

REMARKS

At box 11 of the Advisory Action, the Examiner argues (in paragraph 2) that “Tappan does teach that routers have different forwarding tables” and that “Tappan further teaches that ABRs contain policies which differ from router to router”.

Applicant agrees with the Examiner on both of these points, but respectfully disagrees with the Examiner’s conclusion that such teachings anticipate the presently claimed invention. In particular, according to Tappan,

“ The purpose of the router's IP process is to determine how to forward the datagram to its ultimate (internetwork-host) destination. To make this determination, the IP process inspects the IP datagram's header 38, and in particular its IP destination-address field. That field's contents identify the host system to which the datagram's contents are to be directed, and router 30 uses this address to determine through which of its interfaces to forward the packet on to that host system.

The router makes this determination by using a forwarding table, into which it has distilled information about internetwork topology that it has typically obtained by communications with other routers. Routers inform other routers of the host systems to which they can forward communications packets, and they employ such information obtained from other routers to populate their forwarding tables.” (Col 1, ln 60-Col 2, line10)

Thus Tappan explicitly teaches that the forwarding of IP datagrams, toward the destination defined in the destination address field, is controlled by information stored in each of the router’s forwarding tables. The person of ordinary skill in the art will recognise that this teaching clearly relates to IP datagrams (or any other network layer protocol data units) which

contain a destination address field. Subscriber traffic would be an obvious example of such IP datagrams. However, the skilled artisan will also recognise that such conventional policy-based forwarding cannot be used for forwarding Link State Advertisements (LSAs), for at least the reason that LSAs do not have a destination address. As such, a prior art teaching of conventional policy-based forwarding of IP datagrams cannot anticipate policy-based forwarding of LSA's as provided by the presently claimed invention.

As is well known in the art, the Internet Protocol provides a process for controlling the forwarding of LSAs, which is entirely separate from the policy-based forwarding of IP datagrams. The LSA forwarding process is typically referred to as LSA-flooding, because a received LSA is forwarded to all outbound links of the router. Tappan teaches a modification of the conventional LSA-flooding behaviour which enables a reduction in the size of the forwarding table(s) that must be maintained by each router within a defined area of the network, thus:

“I have recognized that it is possible to use this existing area division as basis for hierarchical labeling. I have further recognized that it is possible to achieve such labeling in a way that is compatible with the normal OSPF protocol and in fact makes use of it. Specifically, I employ the "External Route Tag" field of the OSPF's AS-External LSA to carry labels that the label-switching routers employ, and I have area border routers respond to such messages by filtering them in such a manner as to "tunnel" across OSPF areas.” (Summary of Invention, Col. 5, lines 5-13)

FIG. 8 is a diagram illustrating LSA propagation in accordance with the present invention's teachings; and

FIG. 9 is a flow chart that illustrates part of the LSA-forwarding-decision process that an area border router performs in accordance with the present invention's teachings. .” (Col. 5, lines 35-40)

It will be seen that Tappan teaches a specific decision process that is used by area boarder routers (ABRs) to control the propagation of LSAs. Note that Tappan does not teach or suggest that different “decision processes” are implemented in different ABRs. Rather, in the system of Tappan, all ABRs forward LSAs in accordance with the decision process of FIG. 9. As such, to the extent that Tappan’s “decision process” can be characterised as an “LSA forwarding policy” (which, incidentally, Tappan does not do) then Tappan does not teach that the LSA forwarding policy of one ABR can be different from that of another ABR, as required by the present invention. The person of ordinary skill in the art will recognize that the well known fact that conventional IP datagram forwarding policies can differ from router-to-router has no bearing here, because conventional IP datagram forwarding policies are inoperative for controlling LSA propagation.

In light of the foregoing, it is respectfully submitted that Tappan fails to teach or fairly suggest all of the features of the present invention.

Tappan does not teach or suggest that LSA forwarding is controlled using a forwarding policy having a match criteria corresponding to an asserted route tag. Furthermore, Tappan does not teach or suggest that the LSA forwarding policy is implemented on a per-router basis, such that each ABR can have a respective different LSA forwarding policy. Accordingly, it is believed that the presently claimed invention is clearly patentable over the teaching of United States Patent No. 6,473,421(Tappan). None of the other known prior art references provide the missing teaching.

In light of the foregoing, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus, it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,
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